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No. 384, *Abies amabilis*, Dougl., it appears, must be superseded by *Abies magnifica*, Murray, certainly a very appropriate name. The remarks of Mr. Dufur, quoted under this number, probably relate to a form of *A. Douglasii*.

The specific character of No. 386, *Abies nobilis*, Lind., seems to be somewhat unsettled. Drs. Hooker and Gray incline to the opinion that *A. nobilis* and *A. magnifica* may be forms of the same species. Further investigation is much needed.

No. 387, *Abies bracteata*, Hook. The statement that it grows in Oregon, made on the authority of Gordon, is probably a mistake. It is only positively known from the Santa Lucia Mountains., in Southern California.

No. 402, *Cupressus MacNabiana*, Murr. I had received under this name, from the coast range north of San Francisco, specimens of a *Cupressus* which was said to grow 50 to 190 feet high. I think it is the same which was described as a new species by Mr. Begg, of California, and at a meeting of the Philadelphia Academy of Science in 1876. My specimens are decided by Prof. Watson to be *C. Goveniana*, Gordon, which he thinks may be only a form of *C. macrocarpa*. Gordon describes both *C. MacNabiana* and *C. Goveniana* as only bushes 6 to 10 feet high. Probably one or two more California specimens of *Cupressus* may yet claim a place in the Catalogue.

No. 408, *Juniperus Virginiana*, var., *Bermudiana*. This variety according to Dr. Engelmann is not *J. Bermudiana*, L., which is a little known species of the Bermudas and other West Indian Islands.

No. 411, *Juniperus occidentalis*, var., *Texana*, is what Dr. Engelmann doubtfully calls var. *conjugans*. To me it appears more like a variety of *J. Virginiana*, but very possibly may be a distinct species

Juniperus pachyphlœa, Torr., must be added to the Catalogue. A fine wood section of this species was received from Dr. Palmer (collected in Arizona) after the Catalogue was published. It is very different in some characters from any other Juniper of our country.

Thrinax Garberi, Chap., must be added to the Catalogue. Found in rocky, pine woods near Miami, Southern Florida, by Dr. Garber, in 1877. See BOTANICAL GAZETTE, February, 1877.—GEORGE VASEY.

CASSIA NICTITANS.—This, in these parts common little annual, is now (October 15 dead—dry plants, covered with seed-pods are all we can find. To-day I came across a patch by the railroad, which the track-hands had mowed off early in the season. These had some dry pods from the early flowers, but a new growth came out after the mowing, and these plants were yet green, and flowering profusely.

Having had occasion to watch this plant very closely last summer on account of directions for my artist, I noticed that wherever fertilization was not accomplished the flowers wholly withered away, as is common in most plants. In these October flowers I find a large number form only a calyx and gynœcium having but imperfect stamens and no petals. Some produce petals, but these remain closed, and the stigma protrudes like a green pin-head on the mass of orange yellow. In many of these cases the anthers are polleniferous, but the closed petals seem to prevent any contact of pollen with the stigma. I can find no trace of pollen on any of the stigmatic surfaces. In the normal summer flowers the ovarium is quite large before the sepals and petals fall. In these they are extremely small when the floral envelopes have disappeared, and remind one very much of the appearance of cleistogenous flowers of Amphicarpœa or Impatiens, and like these they evidently go on and perfect their capsules, but unlike the true cleistogene flower, produce no seeds. In none of the capsules apparently formed in this way could I find a single seed.

The interesting lesson is that while under some circumstances the ovarium no more than the seed can be perfected without pollenization; under others the one may be perfected, and it is particularly interesting to one who like me, believes that the behaviour of flowers in relation to matters connected with fertilization is much more varied than many suppose.—THOMAS MEEHAN.

PLANTATIONS AT WARRIORSMARK, PENNSYLVANIA.—It is not often, in this part of Pennsylvania, we can find a piece of land protected for a series of years alike from the inroads of cattle and from the labors of the agriculturalist.. We have such a preserve here, and I wish to tell you how it was planted and what is growing on it. It is only a story of what the birds, squirrels and winds are doing. Did you ever visit a Pennsylvania iron-ore bank, where the brown Haematites are raised from their beds of clay and sand, by windlass from shafts, or by open cut? Such a location is our preserve. Forty years ago, on the summit of a hill, 1,200 feet above tide, surrounded on all sides by cultivated lands, ore was found. A strip of land ten rods wide by fifty rods in length, seems to have defined the largest deposit. For many years thousands of tons of ore were mined. The ore was found on the surface and at varied depths below the surface, reaching to one hundred and ten feet; sometimes interrupted by a clay or sand belt, which, coming to the mouth of the shafts intermingled with ore, made large refuse deposits. Irishmen with carts, wagons, mules and " ore buggies " held exclusive possession, and all traces of vegetation disappeared. The surface was irregular. Abandoned shafts made crater-like pit holes; open cuts over heavy ore deposits, left their mark in the shape of drepressions from ten to fifteen feet deep, with varied exposures. This area, in connection with some land then, and for many years preceeding, under the usual cultivation of a farm, was fenced in, and planted in 1858, with European Larches and *Robinia Pseudacacia*. Cattle have been carefully excluded, and no agricultural implement has been permitted to be used inside its boundary since that date. For many years under this treatment it did not promise much in the line of beauty. The clay banks around old shafts remained bare and yellow, and to this day defy all the mellowing influences of our atmosphere, refusing to bring forth floral life, excepting here and there a straggling specimen of *Pinus rigida* and *Populus grandidentata*. The Larches have made a fine growth, ranging from twenty to forty feet high. An irregular carpet of grasses, chiefly *Poa brevifolia*, *Danthonia spicata* with *Carex Pennsylvanica* now covers that portion of the inclosure where the ore was mined. The native wild plants began to reappear, and every year some old friend in this new location has greeted us. Our census including foreign agricultural waifs enumerates upwards of one hundred and forty species, and still they come year by year, a pleasant surprise. This morning I note the first appearance of *Lycopodium clavatum* and *L. lucidulum*, close to two other species of that beautiful family, which have long lived in that area, viz.: *L. complanatum* and *L. dendroideum*. We have many seedling Larches. One large Red Maple has given an annual colony of young plants from the scattering of seeds by the winds, 'till they may be counted by the hundred. *Rubus villosus* takes possession of all unoccupied openings, and is making such progress that we will soon be constrained to limit its increase. This preserve is now very much admired for its beauty. I add a list of species noted as growing inside its area, which is about three acres in extent:

Abies Canadensis,
Acer rubrum,
Achillea millefolium,
Ambrosia artemisiæfolia,
Amelanchier Canadensis,
Agrimonia parviflora,
Anemone nemorosa,
Antennaria plantaginifolia,
Apocynum androsæmifolium,
Aralia nudicaulis,
Archangelica hirsuta,
Asclepias Cornuti,
Asclepias obtusifolia,
Asclepias tuberosa,
Aspidium spinulosum,
Aster cordifolius,
Aster ericoides,
Aster macrophyllus,
Aster prenanthoides,
Aster puniceus,
Aster sagittifolius,
Azalea nudiflora,
Baptisia tinctoria,
Bidens frondosa,
Bidens connata,
Botrychium lunarioides,
Botrychium var dissectum'
Calamintha clinopodium,
Carya tomentosa,
Capsella Bursa-pastoris,
Carex Pennsylvanica,
Carex laxiflora,
Carex triceps,